REMARKS

This Amendment is responsive to the Final Office Action dated July 13, 2007, is submitted with a Request for Continued Examination, and constitutes the required submission under 37 CFR 1.114. Applicant has amended claims 1, 2, 8, 12-14, 18, 33, 38, 54 and 56, canceled claims 4, 34 and 55, and added claims 59 and 60. Claims 1, 2, 5-8, 10-23, 33, 35-41, 54 and 56-60 are pending, with claims 5-7, 15-17, and 35-37 withdrawn from consideration due to restriction.

Information Disclosure Statement

The Office Action noted that the Information Disclosure Statement mentioned in Applicant's previous Amendment was not submitted with the previous Amendment. Applicant appreciates this reminder. With this Amendment, Applicant resubmits the references from the Information Disclosure Statement filed April 12, 2004 that were not considered by the Examiner.

Claim Rejection Under 35 U.S.C. §§ 102/103

The Final Office Action rejected claims 1, 2, 4, 8, 10, 11, 13, 14, 18, 19, 20, 22, 23, 33, 34, 38-40 and 54-58 under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Stomberg et al. (US 5,554,565, herein referred to as "Stomberg"). Applicant respectfully traverses the rejection, particularly to the extent it is considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's amended claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

Stomberg fails to disclose or suggest receiving programming signals and stay-alive signals from a programming device at a watchdog unit coupled to the programming device during a programming session between the programming device and an implantable medical device, resetting a watchdog timer maintained by the watchdog unit in response to receipt of each of the programming signals and the stay-alive signals, and sending a signal from the watchdog unit to the implantable medical device via wireless telemetry to change a mode of operation of the implantable medical device in response to expiration of the watchdog timer, as required by independent claims 1, 13, 33 and 54.

In support of the rejection of independent claims 1, 13, 33 and 54, the Office Action stated that it is inherent that a "watchdog timer" is used to determine an interval of time in which no signals are received because utilizing a timer that determines a period wherein no pulses are received is the only way to determine a loss of digital signal. Alternatively, the Office Action argued that it is well known in the communication arts to utilize timers to establish a period of time having no received signal to determine a loss of signal and, therefore, would have been obvious to one of ordinary skill in the art at the time of the invention to provide Stomberg's invention with a timer to determine a loss of signal.

Stomberg does not disclose or suggest determining a period of time wherein no pulses are received as the Office Action asserts. Stomberg describes detecting interruption in communication between the programmer and the extender module. It does not necessarily follow that Stomberg is determining a period of time wherein no pulse are received, and instead may be, for example, monitoring data throughput, signal strength, etc.

Further, even if a timer were employed in the Stomberg system, nothing in Stomberg discloses or suggests using a watchdog timer, or resetting a timer, much less resetting a watchdog timer based on receipt of each of the stay-alive signals. There is simply no teaching in the prior art that would have suggested using a watchdog timer and resetting the watchdog timer, instead of any of a variety of other schemes for monitoring the amount of time between communications from the Stomberg programmer.

Additionally, Applicant has amended independent claims 1, 13, 33 and 54 to require that the watchdog unit receives both programming signals and stay-alive signals and resets a watchdog timer maintained by the watchdog unit in response to receipt of each of the programming signals and the stay-alive signals. Stomberg fails to disclose or suggest these requirements.

Stomberg describes a programmer that sends programming signals to an implantable medical device via an extender module. Stomberg does not disclose or suggest sending any other types of signals to the extender module. Applicant's specification, for example at paragraphs [0039], [0058], and [0060], describes dedicated stay-alive signals that may be provided upon execution of instruction of control software of the programmer. In some embodiments, a stay-alive signal is sent if no programming signal is sent in time to cause the watchdog unit to reset

the watchdog timer. In this manner, the watchdog may be prevented from timing out inappropriately during a pause in a neurostimulation programming process. Stomberg does not disclose or suggest sending stay-alive signals.

The Office Action stated that the timer of Stomberg is reset for any and all signals received by the watchdog from the programmer. As described previously, Stomberg fails to disclose or suggest resetting a watchdog timer much less resetting a watchdog timer in response to each of the received signals. Further, Stomberg only contemplates sending programming signals, and does not disclose or suggest additionally sending stay-alive signals. For at least these reasons, Stomberg fails to disclose or suggest the requirements of independent claims 1, 13, and 33.

With respect to amended claims 8, 18, and 38, Stomberg fails to disclose or suggest sending a signal to an implantable medical device to cause the implantable medical device to revert to a program previously stored within a memory of the implantable medical device. Similarly, with respect to amended claim 56, Stomberg fails to disclose or suggest an implantable medical device comprising a memory to store a program that controls delivery of therapy by the implantable medical device and a watchdog unit that causes the implantable medical device to delivery therapy according to the program in response to expiration of the watchdog timer. Stomberg describes an extender module that stores an application proxy configured to transition the implantable medical device to a recovery state under certain conditions. Stomberg only contemplates storing the application proxy in the extender module and, therefore, fails to disclose or suggest reverting to a program previously stored within a memory of the implantable medical device, as required by claims 8, 18, 38, and 56.

As another example, Stomberg fails to disclose or suggest receiving power at a watchdog unit from a programming device, detecting a failure of power delivery by the programming device, activating an auxiliary power source of the watchdog unit in response to the detection, and sending a signal from the watchdog unit to the implantable medical device via wireless telemetry to change the mode of operation of the implantable medical device in response to the detection, as required by claims 11, 20, and 40.

In support of the rejections of claims 11, 20, and 40, the Office Action stated that the extender module receives power in the form of signals from the programming device and

activates auxiliary power in the form of signal generation. However, Stomberg fails to disclose or suggest that the signals received by the extender module and the signals generated by the extender module power the extender module. In fact, Stomberg describes downlinking data (e.g., diagnostics, interrogations, and changes in operating parameters) from a programmer to an implantable medical device and uplinking data (e.g., ECG data and uplink telemetry waveform data) from an implantable medical device to a programmer via an extender module.[1] Stomberg lacks any disclosure suggestive of receiving power at a watchdog unit from a programming device or activating an auxiliary power source in response to a failure of power delivery by the programming device.

With respect to claim 23, Stomberg fails to disclose or suggest a programming device coupled to a programming head by a cable and a watchdog unit that couples the cable to the programming head. In support of the rejection of claim 23, the Office Action stated that Stomberg teaches that the extender module may be coupled to the programmer via a wired connection and the extender module may form the programming head. However, Applicant's claim 23 requires that the watchdog unit provide a coupling between the cable and the programming head. Stomberg fails to disclose or suggest a watchdog unit that couples a cable to a programming head.

For at least these reasons, the Final Office Action has failed to establish a prima facie case for non-patentability of Applicant's claims 1, 2, 8, 10, 11, 13, 14, 18, 19, 20, 22, 23, 33, 38-40, 54 and 56-58 under 35 U.S.C. §§ 102(e) and 103(a). Withdrawal of these rejections is requested.

Claim Rejection Under 35 U.S.C. § 103

The Office Action rejected claims 12, 21, and 41 under 35 U.S.C. § 103(a) as being unpatentable over Stomberg. Applicant respectfully traverses the rejection. Each of claims 12, 21 and 41 depends from one of independent claims 1, 13, and 33. Claims 12, 21 and 41 are patentable over Stomberg for at least the reasons discussed above with reference to the independent claims.

[1] Stomberg, column 6, lines 4-7.

New Claims:

Applicant has added claims 59 and 60 to the pending application. The applied references fail to disclose or suggest the inventions defined by Applicant's new claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions. As one example, the reference fail to disclose or suggest a system comprising an implantable medical device and a watchdog unit to receive stay-alive signals during a programming session with the implantable medical device, reset a watchdog timer maintained by the watchdog unit in response to receipt of each of the stay-alive signals, and send a signal to the implantable medical device via wireless telemetry to cause the implantable medical device to revert to a program previously stored within a memory of the implantable medical device in response to expiration of the watchdog timer. No new matter has been added by the new claims.

CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims.

In view of the clear distinctions identified above between the current claims and the applied prior art, Applicant reserves further comment at this time regarding any other features of the independent or dependent claims. However, Applicant does not necessarily admit or acquiesce in any of the rejections or the Examiner's interpretations of the applied references. Applicant reserves the right to present additional arguments with respect to any of the independent or dependent claims.

Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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